

Application No. 09/362,631

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a particle collection apparatus connected to the one or more product outlets to collect the product particles generated by the reactants from the plurality of reactant inlets, wherein the particle collection apparatus receives product particles generated from the plurality of reactant streams.

21. The particle production system of claim 20 with a single reaction chamber.
22. The particle production system of claim 21 comprising a reactant delivery system that delivers different reactants to at least two of the plurality of reactant inlets having a flow separated by shielding gas.
23. The particle production system of claim 20 comprising a plurality of reaction chambers, each reaction chamber comprising a product outlet.
24. The particle production system of claim 23 comprising a manifold connected to the product outlets of the reaction chambers such that the product particles are mixed within the manifold.
25. The particle production system of claim 23 wherein at least two reaction chambers are aligned such that a single light beam passes through the two reaction chambers.
26. The particle production system of claim 23 wherein at least one of said reaction chambers comprises a reactant delivery system that delivers different reactants to at least two reactant inlets having a flow separated by shielding gas.
27. The particle production system of claim 20 comprising three reaction chambers.

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52. The particle production system of claim 23 wherein the number of reactant inlets and product outlets are equal and each reaction chamber includes one of the reactant inlets configured to direct a reactant stream within the reactant chamber.

53. The particle production system of claim 23 wherein at least one reaction chamber includes a plurality of reactant inlets within the reactant chamber.

54. The particle production system of claim 20 wherein the plurality of reactant inlets is two reactant inlets.

55. The particle production system of claim 20 wherein the plurality of reactant inlets is three reactant inlets.

56. The particle production system of claim 20 comprising a plurality of product outlets and a manifold connected to the product outlets such that the product particles are mixed within the manifold.

57. The particle production system of claim 56 wherein two reactant streams generate product particles with different compositions from each other.

58. The particle production system of claim 20 wherein the collection apparatus comprises a cylindrical filter positioned to collect a substantial amount of the product particles from the one or more product outlets.

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59. The particle production system of claim 20 wherein the collection apparatus comprises a tank with a plurality of filters, the tank having an inlet and an exhaust, wherein the tank inlet is connected to the one or more product outlets.

60. The particle production system of claim 59 wherein a manifold connects a plurality of product outlets with the tank inlet.

61. The particle production system of claim 59 wherein the collection apparatus further comprises a collection container to collect particles dislodged from the plurality of filters.

62. The particle production system of claim 61 wherein the collection apparatus further comprises a valve connecting the collection container with the tank.

63. The particle production apparatus of claim 20 wherein a radiation pathway intersects each of the independent reactant streams.

64. The particle production apparatus of claim 20 wherein a single radiation pathway intersects the plurality of independent reactant streams.

REMARKS

Claims 20-27 and 52-64 are pending. By this Amendment, claim 20 is amended. The amendment of claim 20 is supported by the unamended claim 20 and the specification, for example, at page 31, line 23 to page 32, line 10 and at page 48, line 15 to page 49, line 16.